UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105-3901

APR 26 1996

MEMORANDUM

SUBJECT: Five-Year Review for the City of Coalinga OU of the Atlas and Coalinga Superfund Sites, Coalinga, CA

FROM: Kent Kitchingman, Chief
Northern California Section

TO: Keith Takata, Acting Director
Superfund Division, Region IX

I. INTRODUCTION

Attached, please find a copy of the five-year review for the City of Coalinga Operable Unit of the Atlas and Coalinga Superfund sites. The report was prepared by Ecology & Environment, Inc. (E & E) and was reviewed by EPA. E & E recommendations are summarized below.

As asbestos contaminants will remain on site in a waste management unit, this five-year review must be conducted as a matter of Agency policy (OSWER Directive 9355.7-02, 5/31/91).

II. FIVE YEAR REVIEW SUMMARY

The Atlas and Coalinga Superfund sites were listed on the NPL in September 1984 after discovery that asbestos in the California Aqueduct could be traced to these former mines and mill areas. The City of Coalinga was added as an operable unit when it was discovered that asbestos fibers measured in the City could be traced to the transportation and storage from these sites. The Record of Decision in July 1989 provided for the removal of contaminated soils and waste materials to an on-site Waste Management Unit with an impermeable clay cap, vegetative cover, and ground water monitoring. The ROD provided for decontamination of buildings and deed restrictions for the WMU as well. A certificate of completion was issued in May 1993.

Consistent with the Brownfields Initiative, commercial and residential development is in progress at parts of the site where no deed restrictions exist. A K-mart shopping center and some residential development has been completed. The city has removed one of the structures (the Marmac warehouse) remaining after the cleanup.

Ecology and Environment, Inc. identified no more stringent regulations, and found that the institutional controls were adequate. After a site visit and interviews with site personnel, contractors, community members, and government representatives, no one expressed concern about the effectiveness of the remediation. Resident neighbors at the site are comfortable with the remediation. E & E recommends that sampling be conducted to evaluate asbestos levels at redeveloped areas in comparison to offsite levels and that the ECHO Transport Building be evaluated and/or removed as a visual eyesore and unattractive nuisance. E & E found that the remedy remains protective.

III. CONCLUSION

After reviewing the E & E recommendations, EPA finds the response actions as selected in the Record of Decision remain effective at protecting human health and the environment. The Echo Transport Building is being handled by the City of Coalinga and the property owner as a nuisance. Air sampling of asbestos unless done on a massive scale would lead to inconsistent and inconclusive results. Soil sampling may be done in a future Five Year Review if resources are available. No further actions are required at this time.

Future five year reviews shall be conducted every five years from the approval of the previous review. Any questions may be directed to Richard Procunier, Remedial Project Manager for the site.

Approved by: Keith Takata Date: 5-15-96

Keith Takata, Acting Director
Superfund Division
Region 9

CITY OF COALINGA OPERABLE UNIT
FIVE-YEAR REVIEW

Coalinga, California
Fresno County

Contract Number:	68-W9-0020, Revision 2
Work Assignment Number:	20-47-9RE9, Revision 1
Report Prepared By:	Karen Ladd
Through:	Ron Anderson
Report Date:	March 28, 1996
Submitted To:	Richard Procunier EPA Region IX Remedial Project Manager
E & E Review/Concurrence:	Ron Anderson Original Document 3/29/96

Prepared for:

U.S. Environmental Protection Agency, Region IX
Hazardous Waste Management Division
April 1996

EXECUTIVE SUMMARY

The United States Environmental Protection Agency (EPA) tasked Ecology and Environment, Inc., (E & E) to conduct a five-year review of the City of Coalinga Operable Unit in Coalinga, California. This statutory five-year review was conducted pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the National Contingency Plan (NCP), and Office of Solid Waste and Emergency Response (OSWER) Directives. This is a Type I five-year review, the most basic of the three types of five-year reviews, and is applicable to a site at which response is completed. It included a document review; a review of applicable or relevant and appropriate requirements (ARARs) for the site; a site visit; and interviews with involved site personnel, contractors, community members, and local, state, and federal agency representatives. At EPA's request, sampling to evaluate airborne asbestos levels at redeveloped areas of the site was not conducted as part of this five-year review.

Following remedial response, the onsite waste management unit (WMU) was the only area of the site on which a deed restriction was placed; cleanup was considered complete on all other areas of the site. E & E's review found the WMU to be secure and operating as designed. Operations and maintenance procedures appear adequate to ensure the continued security and integrity of the WMU. Consistent with EPA's Brownfields Economic Redevelopment Initiative, commercial and residential redevelopment has occurred or is in progress on some parts of the site where there is no deed restriction. New construction includes a K-Mart shopping center and residential housing, with both apartments and single family homes. E & E and EPA conducted interviews with people working and living in redeveloped areas, all of whom were comfortable with the remediation at the site and with the amount of information about the cleanup that they had received from EPA.

E & E identified no new regulations warranting more stringent remediation for the site and no changes to the Record of Decision (ROD) are recommended. E & E recommends a five-year review be performed again in the year 2000, as required by the NCP. In addition, E & E recommends that sampling be conducted to evaluate how asbestos levels at redeveloped areas compare to offsite levels and to ensure that post-cleanup levels remain

protective of human health and the environment. In particular, sampling should be conducted at the Echo Transport Building to determine if asbestos is present at levels significantly above background. Final removal of the Echo Transport Building should also be performed to eliminate its potential hazard as an attraction to scavengers and vandals.

1. INTRODUCTION

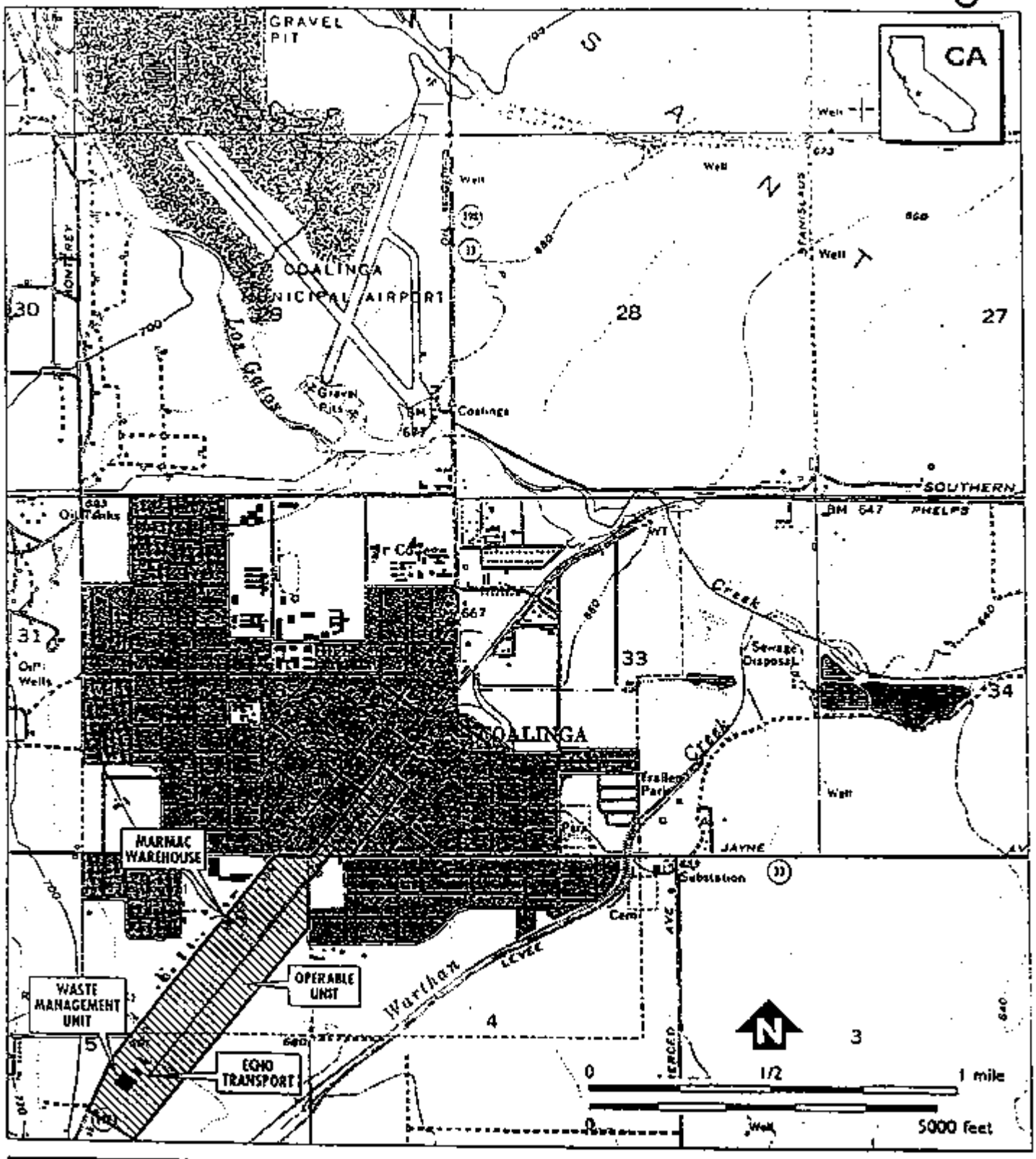
Ecology and Environment, Inc., (E & E) was tasked by the United States Environmental Protection Agency (EPA) to conduct a five-year review of the City of Coalinga Operable Unit in Coalinga, California. This is a statutory review conducted pursuant to Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 300.400(f) (4) (ii) of the National Contingency Plan (NCP), and Office of Solid Waste and Emergency Response (OSWER) Directives 9355.7-02 (May 23, 1991) and 9355.7-02A (July 26. 1994). This is a Type I five-year review, the most basic of the three types of five-year reviews, and is applicable to a site at which response is completed.

Following completion of all remedial action at a site, if hazardous substances, pollutants, or contaminants remain at levels high enough to preclude unlimited use and unrestricted exposure, then a statutory five-year review is conducted consistent with the NCP and OSWER Directives. Such is the case for the City of Coalinga Operable Unit, where a deed restriction has been placed on the property occupied by the onsite Waste Management Unit (WMU) because wastes remain buried there.

The purpose of a five-year review is to ensure that the remedial action remains protective of public health and the environment and that remedial controls are functioning as designed. The focus of this five-year review of the City of Coalinga Operable Unit has been to determine if:

- The onsite WMU remains secure and the operation and maintenance procedures are adequate.
- New regulations now require more stringent remediation.
- Institutional controls are adequate and the resident neighbors feel comfortable with the remediation.

This five-year review included a document review; a review of applicable or relevant and appropriate requirements (ARARs) for the site; a site visit; and interviews with involved site personnel, contractors, community members and local, state, and federal agency representatives. At EPA's request, sampling to evaluate airborne asbestos levels at redeveloped areas of the site was not conducted as part of this five-year review.



CITY OF COALINGA OPERABLE UNIT

Atlas Five Year Review

Coalinga, California

2. SITE CHARACTERISTICS

2.1 Site Description and History

The City of Coalinga is in Pleasant Valley, in Fresno County, California, on the western margin of the central San Joaquin Valley in an area that includes the foothills of the Southern Diablo Range Mountains. Approximately 20 miles northwest of Coalinga in the Diablo Range is the New Idria Formation which is the largest known serpentine deposit in the Coalinga region. Extensive mining has been conducted in the southeastern third of the New Idria Formation for chromite ore, chrysotile asbestos ore, and other serpentine related minerals.

In September 1984 an asbestos mine located in the New Idria Formation and a mill located immediately southeast of the Formation were listed on the Superfund National Priorities List as the Atlas Mine and Superfund Site and the Johns-Manville Coalinga Asbestos Mill Superfund Site (the "Atlas-Coalinga Sites"). During investigation of these sites, EPA conducted an airborne asbestos sampling program in which high asbestos readings were measured in the City of Coalinga. Further investigation revealed that asbestos had been transported from the mines and mills to storage areas within the City of Coalinga for handling and shipment. In August 1987 EPA issued an administrative order pursuant to CERCLA Section 106 (Order 87-04) to Southern Pacific Transportation Company (SPTC) requiring them to conduct a Remedial Investigation at the City of Coalinga site. Soil sampling confirmed the presence of uncontrolled hot spots of asbestos and nickel contamination over a 107-acre area in the City of Coalinga. EPA ordered SPTC to prepare an Operable Unit Feasibility Study (OUFS) to develop and evaluate remedial alternatives for the site. On February 9, 1989, EPA released the OUFS and the Hazardous Substance Containment Report explaining EPA's proposed plan for cleanup.

Contamination in the northern portion of this area was associated with the Atlas storage, handling, and shipping operations, while contamination in the southern portion was associated with the Johns-Manville storage, handling, and shipping operations. Although cleanup could have proceeded as two separate operable units, EPA decided it would be more

expeditious to combine the cleanup of the entire 107-acre area into a single site, designating it the City of Coalinga Operable Unit. The crosshatched area in Figure 1 (page 3) identifies the site boundary. The site is a strip of land running from southwest to northeast, in the (figure 1) southeastern section of Coalinga in a mixed light industrial and residential area. It spans a length of about 1 mile and is about 900 feet at its widest point. Its southwest border is near the intersection of Lucille Avenue and Highway 198 and its northeast border is at Fourth Street. Its northwest border is along Highway 198 south of Polk Street and along Forest Avenue north of Polk Street. Its southeast border is roughly along Forest Avenue south of Polk Street and along Glenn Avenue north of Polk Street.

2.2 Current Site Status

Contaminated soils, equipment, and other waste materials were removed during remediation and permanently buried in the onsite WMU. Two buildings known as the Marmac Warehouse and the Echo Transport Building were partially dismantled and the contaminated material was also placed in the WMU. The remaining steel superstructures of the buildings were left onsite after being decontaminated by steam cleaning and application of an encapsulant. A deed restriction was placed only on the property occupied by the WMU; EPA considered cleanup of the remainder of the site to be complete, including the Marmac Warehouse and the Echo Transport Building.

Consistent with EPA's Brownfields Economic Redevelopment Initiative, commercial and residential redevelopment has occurred or is in progress on some parts of the site where there is no deed restriction. A brownsfield is a site, or portion thereof, that has actual or perceived contamination, as well as an active potential for redevelopment or reuse. EPA's "Brownfields Initiative" is designed to encourage redevelopment of such sites so that they can become vital, functioning parts of their communities. Following EPA's issuance of a Certificate of Completion of cleanup for the site, the City of Coalinga arranged to remove the remaining superstructure of the Marmac Warehouse to make way for a new housing development project. Cleanup of that area was considered complete, so standard demolition practices were used. Other redevelopment of portions of the site includes construction of a K-Mart shopping center and a residential apartment complex.

3. REMEDIAL ACTION

3.1 Remedial Objectives

The principal threat posed by uncontained asbestos is from inhalation of airborne particles. Remedial objectives were to reduce airborne emissions from the asbestos- and nickel-contaminated soils. The EPA's selected remedy was the consolidation and burial of asbestos- and nickel-contaminated material in an onsite WMU.

3.2 Applicable or Relevant and Appropriate Requirements

Applicable or Relevant and Appropriate Requirements (ARARs) are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant or contaminant, remedial action, location, or other circumstance at a CERCLA site. ARARs for the City of Coalinga Operable Unit were identified in the Record of Decision and the selected remedy complied with all of them. They are as follows:

Action-specific ARARs

Occupational Safety and Health Administration (OSHA) requirements for permissible exposure limit (PEL) in 51 CFR 22612 (1986), which specified a PEL for all asbestos fibers at 0.2 fibers per cubic centimeter (f/cc) for occupationally exposed workers. Since the ROD was signed, these requirements have become more stringent, but because cleanup is already complete, the change does not affect current activities at the site. The PEL is now set at 0.1 f/cc of air as an 8 hour time-weighted average (TWA).

Contaminant-specific ARARs

Asbestos Hazard Emergency Response Act (AHERA) regulations for polarized light microscopy (PLM) measurement technique for asbestos. PLM, a method for analyzing bulk materials, utilizes a light microscope equipped with polarizing filters. The reliable limit of detection of asbestos in a sample is about 1% by area.

National Emission Standard for Hazardous Air Pollutants (NESHAPs) requirements found in 40 CFR § 61.152, 40 CFR § 61.153, and 40 CFR § 61.156.

Title 22, Chapter 30, Section 66740(a) of the California Administrative Code [now known as Title 22, Division 30, Section 66740(a) of the California Code of Regulations] which classifies nickel-bearing waste as a special waste.

Title 23, Chapter 3, Subchapter 15, Article 7, Section 2571(b) [now known as Title 23, Division 3, Chapter 15, Article 7, Section 2571(b) of the California Code of Regulations] which classifies the waste as a Class B mining waste. Under these regulations, Class B mining wastes must be disposed of in a capped landfill. The WMU is exempt pursuant to Section 2570 from the liner and leachate requirements.

Location-specific ARARs

Endangered Species Act of 1973, 16 U.S.C. § 1536 4(a)-(d), regarding endangered species and critical habitat.

U.S. Fish and Wildlife Service Mitigation Policy establishes guidelines for minimizing habitat loss pursuant to FR 7644-7633 Volume 46, Number 15, January 1981).

3.3 Geographic Areas of the Site

The contaminated structures and areas at the site were divided into four areas based on geography:

- The Marmac Warehouse located on Elm Avenue (Highway 198). This was a chromite ore distribution center with approximately 1,600 cubic yards of chromite ore and asbestos-contaminated waste.

- The storage yard located approximately 1 mile south of the Marmac Warehouse on Elm Avenue on the east side of the road. It contained stacked pipes contaminated with asbestos.

- The Atlas shipping yard located in the vicinity of Glenn Avenue and 6th Street. It was used as an asbestos distribution center.

- The U.S. Asbestos Company consisting of 9 acres located at the southern border of the site and containing piles of raw asbestos ore. The Echo Transport Building is located in this area.

3.4 Remedial Activities

An onsite WMU was constructed and all contaminated soil, equipment, and other waste materials were buried permanently in it under an impermeable cap. The WMU is square, with each side approximately 240 feet, and a total capacity of about 26,200 cubic

yards. The WMU has no liner underneath the waste material, but several layers compose the cap, including a foundation layer, a bentonite mat, a protective soil cover, a PVC liner, a geocomposite layer, a gravel layer, a geotextile layer, hardware cloth, and a vegetative soil cover. The WMU is located near the southern border of the site along Elm Street.

Cleanup of the site included the removal and consolidation in the WMU of contaminated soils that exceeded 1 area percent asbestos using PLM, soils that contained nickel at levels in excess of background, and any soils that displayed light grey coloring characteristics of asbestos contamination. Equipment and other waste materials that exceeded 1 area percent asbestos were also removed to the WMU. The Marmac Warehouse and the Echo Transport Building were partially dismantled and the contaminated material was placed in the WMU. The remaining steel superstructures of the buildings were left onsite after being decontaminated by steam cleaning and application of an encapsulant.

Remedial activities began in March 1990 and construction of the WMU was completed in March 1991. Confirmation sampling showed that the cleanup levels had been met and a final inspection was conducted in October 1991. Following remedial response, the onsite WMU was the only area of the site on which a deed restriction was placed; EPA considered cleanup of all other areas of the site complete. E & E's review found the WMU to be secure and operating as designed. EPA accepted the final Remedial Action Report and an Operation and Maintenance Plan for the WMU in April 1992.

3.5 Operation and Maintenance

Post-cleanup operation and maintenance has included performing vadose zone monitoring and conducting regularly scheduled inspections of the WMU. In the event of a natural disaster such as an earthquake or flood, SPTC conducts inspections independent of other scheduled inspections. One such inspection was conducted on April 2, 1994, following the occurrence on March 31 of two earthquakes measuring 4.2 and 4.4 on the Richter scale whose epicenters were 5 miles northeast of Coalinga. Vadose zone monitoring was conducted to monitor changes in the moisture content is the WMU. A significant increase in moisture content of the WMU would indicate the potential for the downward transport of contaminants

to groundwater. A groundwater monitoring program was developed and would have been implemented if significant moisture increases had been detected. Vadose zone monitoring was performed quarterly for the first year beginning in June 1991, then semi-annually for the second and third years, and annually for the fourth and fifth years. Regularly scheduled vadose zone monitoring was terminated as planned after five years, with the final event in May 1995, because no increases in moisture content greater than 5% over background baseline conditions (adjusted after the early quarterly events in 1991) were detected. Future vadose zone monitoring is only anticipated in the event of a natural disaster such as a flood, in which case SPTC will immediately report the results to EPA. In that event, SPTC will compare the vadose zone monitoring results to baseline conditions to determine if an increase in moisture above the 5% limit has occurred and if the groundwater monitoring program should be initiated.

Periodic inspections were conducted to assess the condition of the WMU and document any damaged areas or areas requiring corrective action. Quarterly inspections were performed during the first three years beginning in June 1991, with annual inspections conducted thereafter. The most recent annual inspection was conducted in July 1995 and the next one is scheduled for May 1996. SPTC will continue to perform annual inspections and provide EPA with inspection reports.

The only problem identified during quarterly and annual inspections of the WMU (for the period from May 1993 to present) is damage from burrowing animals to the cap and areas around the neutron probe vadose zone monitoring access tubes. According to SPTC, the burrow holes are generally shallow and do not impair the performance of the WMU cap. When damage has been identified, SPTC has directed their maintenance contractor to make repairs. SPTC's maintenance contractor visits the WMU at least once per month to monitor cap vegetation, ensure sprinklers are operating properly, apply fertilizer or to reseed if necessary, clear vegetation from the area immediately surrounding the WMU, remove deep-rooted vegetation that might damage the integrity of the WMU, and fill burrow holes.

4. E & E INVESTIGATION AND REVIEW

In completing this five-year review for the City of Coalinga Operable Unit, E & E performed a document review and a review of ARARS for the site; conducted a site visit; and with EPA interviewed involved site personnel, contractors, community members, and local, state, and federal agency representatives.

4.1 Document Review

E & E Investigation

To understand the work completed during the remedial action, operation and maintenance requirements and status of the site, E & E reviewed the following documents:

- Feasibility Study, dated December 1988
- Record of Decision, signed July 19, 1989
- Consent Decree, signed July 27, 1989
- First Amended Consent Decree, signed April 25, 1990
- Remedial Action Report, dated January 23, 1992
- Operation and Maintenance Plan, dated January 1992
- Correspondence from SPTC to the City of Coalinga regarding the Marmac Warehouse Demolition, dated May 8, 1992
- Correspondence from SPTC to the Fresno County Health Department regarding sampling at the Echo Transport Building dated June 29, 1992
- Certificate of Completion, issued May 18, 1993
- Vadose Zone Monitoring Reports, from May 1993 to present
- Periodic Inspection Reports of the Waste Management Unit, from May 1993 to present
- Environmental Property Assessment conducted at Ridgeview by Environmental Solutions, dated May 1995

- Environmental Assessment Report, Phase II, Asbestos Related Air and Soil Sampling Report, Ridgeview, by Environmental Solutions, dated July 10, 1995

- Environmental Assessment Report, Phase II.B, Asbestos Related Air and Soil Sampling Report, Coalinga, by Environmental Solutions, dated August 10, 1995

Findings

The document review did not uncover problems with the WMU that remain unresolved. Physical inspection of the WMU by SPTC was conducted quarterly for the first three years beginning in June 1991, and is currently conducted annually. Damage from burrowing animals to the cap and the areas surrounding the neutron probe vadose zone monitoring access tubes has been the primary problem noted during inspections of the WMU. While it appears impossible to prevent these occurrences completely, upon identifying any damage, SPTC has directed their maintenance contractor to fill in the holes and repair any damage. This action appears effective in ensuring the integrity of the WMU and performance of the inspection on an annual basis appears to be adequate. Fences and posted signs appear to remain intact and act as effective security for the site.

Limited air and soil sampling was conducted in July and August 1995 in and around the City of Coalinga Operable Unit by a consultant for the California Housing Finance Agency. Asbestos was detected both in air and soil from locations onsite and offsite, however, there are data quality concerns that restrict the usefulness of the results. No conclusions can be drawn from the data regarding airborne asbestos levels, either to compare pre-remediation to current levels or to compare onsite to offsite levels. For example, the air sampling period was only one day, which may not be sufficiently long to be representative. There is also no indication that any quality control samples such as blanks or duplicates were collected. For the soil sampling, decontamination procedures conducted between samples is questionable. In spite of these concerns, results showed asbestos in an onsite sample of air at up to 0.138 structures per cubic centimeter (s/cc) and in an onsite sample of soil at up to 0.017% by weight. E & E recommends that additional sampling be conducted to evaluate

how asbestos levels at redeveloped areas compare to offsite levels and to ensure that post-cleanup levels remain protective of human health and the environment.

Following EPA issuance of the Certificate of Completion for the site, SPTC considered demolishing the Echo Transport Building. At the time, SPTC sought permission from Fresno County to demolish the building according to standard demolition practices (except for the removal of some fiberglass wall insulation material that was to be removed under standard asbestos abatement practices.) According to a letter from SPTC to Fresno County dated June 29, 1992, some concerns had been raised that the encapsulant materials may have contained asbestos above regulatory criteria. To address the concerns, SPTC conducted an asbestos inspection and sampling program that included the collection of 17 samples from suspect areas. Ten of the samples were of the spray encapsulant and only one of these contained asbestos above the 1% action level; it had 1.25% chrysotile asbestos. Two of three samples of insulation materials located inside one office wall had results above 1%; they showed 1.25% and 1.50% chrysotile asbestos. The only other sample above the 1% action level was a debris/dust sample that contained asbestos at 20%. SPTC eventually elected not to demolish the building although they considered the results of the sampling effort to show that except for the insulation material, the building could be demolished by standard demolition practices. E & E could not determine from available information if Fresno County concurred with SPTC's assessment.

4.2 ARAR Review

E & E Investigation

E & E reviewed ARARS for the site to evaluate whether newly promulgated regulations might cause EPA to take action such as a ROD amendment.

Findings

The ARARs that were considered for the site addressed the design, construction, or cleanup phase of the remedial action. Some of these have been revised since the ROD was

signed, but because cleanup is complete, none of the changes affect the WMU in its present state. Actions such as a ROD amendment do not appear warranted as a result of the changes. E & E did not identify any new ARARs for the site.

4.3 Site Visits

E & E Investigation

On September 14, 1995, E & E conducted a site visit. The tour included viewing the WMU from the fence line and observing some areas of the site where redevelopment has occurred or is in progress. On December 13, 1995, E & E conducted another site visit to observe the current condition of the Echo Transport Building.

Findings

A K-Mart shopping center now occupies part of the site at the intersection of East Polk Street and Forest Avenue. Construction of residential homes and apartments is ongoing or has been completed on other remediated areas of the site. The Marmac Warehouse has been removed and its former location is now part of a housing development project. E & E did not note any problems with the WMU. The fence and posted signs were in place and intact and vegetative cover, though sparse, was present on the cap of the WMU. Photographs of the site and the surrounding area are in Appendix A.

Inspection of the Echo Transport Building revealed that it has been partially dismantled since completion of the remedial action. During decontamination of the Echo Transport Building, suspected asbestos ore waste was noticed between the overlaps of the corrugated metal siding panels. According to the Remedial Action Report, suspect areas were most prominent in the panels from the ground to the 4-foot level so they were removed from this level from the north and south sides of the building. The remaining panels and the building superstructure were steam cleaned then sprayed with an encapsulant to complete their decontamination. During the recent inspection, however, the corrugated metal siding was missing. It is unknown how the siding disappeared, but it is presumed to have been removed

by scavengers because SPTC did not permit anyone to remove it. Photographs from quarterly inspections show that the siding panels were removed between March 31, 1994, and October 28, 1994. The building superstructure and part of the roof are all that currently remain. It is unknown if removal of the panels has disturbed asbestos that may have been present. It was not possible to confirm from visual inspection whether the encapsulant that had been sprayed on the steel superstructure was still present or intact. It is unknown if weathering or other factors have caused the encapsulant to lose its effectiveness. See Appendix A for photographs.

4.4 Interviews

E & E Investigation

EPA and E & E conducted interviews with commercial, residential, and governmental persons to evaluate the awareness of the remediation and to document potential problems or concerns. Interviews were conducted in person and by telephone between September 13, 1995, and December 19, 1995.

Findings

Everyone who was interviewed was at least aware of the site, although the private citizens (the manager of the K-Mart store, the manager of an apartment complex built on remediated property, and the president of a local business) tended to have significantly less knowledge about specific details of the remediation. In spite of the differences in awareness, everyone interviewed felt comfortable with the amount of information that EPA had provided them. No one expressed concern about the effectiveness of the remediation. All felt the remedy, especially the WMU, was operating and functioning as designed. There was some concern expressed about the location and aesthetics of the WMU. In addition, some thought that the Echo Transport Building should be torn down because it is considered a nuisance hazard that inhibits redevelopment around the WMU.

5. RECOMMENDATIONS

The WMU is secure and operating as designed. Operations and maintenance procedures appear adequate to ensure the continued security and integrity of the WMU. Inspections have been effective in identifying the need for repair or corrective action and Southern Pacific Transportation Company has ensured that corrections have been made. No new regulations for the site have been identified that would warrant more stringent remediation. Resident neighbors at the site appear to feel comfortable with the remediation.

E & E recommends no changes at this time to the ROD. Inspection of the WMU should continue to take place as planned on an annual basis and in the event of a natural disaster such as an earthquake or flood. Maintenance, repair, revegetating the WMU cap, or other corrective activity should be conducted when inspection identifies the need. EPA recommends a five-year review be performed again in the year 2000, as required by the NCP.

No sampling to evaluate airborne asbestos levels at redeveloped areas of the site was conducted as part of this five-year review. Limited air and soil sampling was recently conducted in and around the City of Coalinga Operable Unit by a consultant for the California Housing Finance Agency. The results are not conclusive, but they do indicate the presence of asbestos in soil and air. E & E recommends that additional sampling be conducted to evaluate how asbestos levels at redeveloped areas compare to offsite levels and to ensure that post-cleanup levels remain protective of human health and the environment.

In its current condition, the Echo Transport Building is of concern as an attractive nuisance and it is considered a visual eyesore that may inhibit redevelopment in the area. Corrugated metal siding panels on the building have been removed, presumably by scavengers, and it is unknown if removal of the panels has disturbed asbestos that may have been present. It is also unknown if weathering or other factors have caused the encapsulant that was sprayed on the warehouse to lose its effectiveness. Sampling should be conducted at the Echo Transport Building to determine if asbestos is present at levels significantly above background. E & E recommends that final removal of the Echo Transport Building also be performed to eliminate its potential hazard as an attraction to scavengers and vandals.

6. EPA REVIEW

6.1 Statement on Protectiveness

_____ After reviewing the E & E recommendations, EPA finds the response actions as selected in the Record of Decision remain effective at protecting human health and the environment. The Echo Transport Building is being handled by the City of Coalinga and the property owner as a nuisance. Air sampling of asbestos unless done on a massive scale would lead to inconsistent and inconclusive results. Soil sampling may be done in a future Five Year Review if resources are available. No further actions are required at this time.

6.2 Next Five-Year Review

_____ Future five year reviews shall be conducted every five years from the approval of the previous review. Any questions may be directed to Richard Procunier, Remedial Project Manager for the site.

Approved by: Keith Takata _____ Date: 5-16-96

Keith Takata, Acting Director
Superfund Division
Region 9

APPENDIX A

PHOTOGRAPHS

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ecology and environment, inc.
PHOTOGRAPHIC RECORD

= =

Client: U.S. Environmental Protection Agency E&E Job No.: ZO6040

Site: Coalinga Operable Unit

Camera: Make Ricoh L-20 auto SN 76244417

Lens Ricoh L-20 auto SN 76244417

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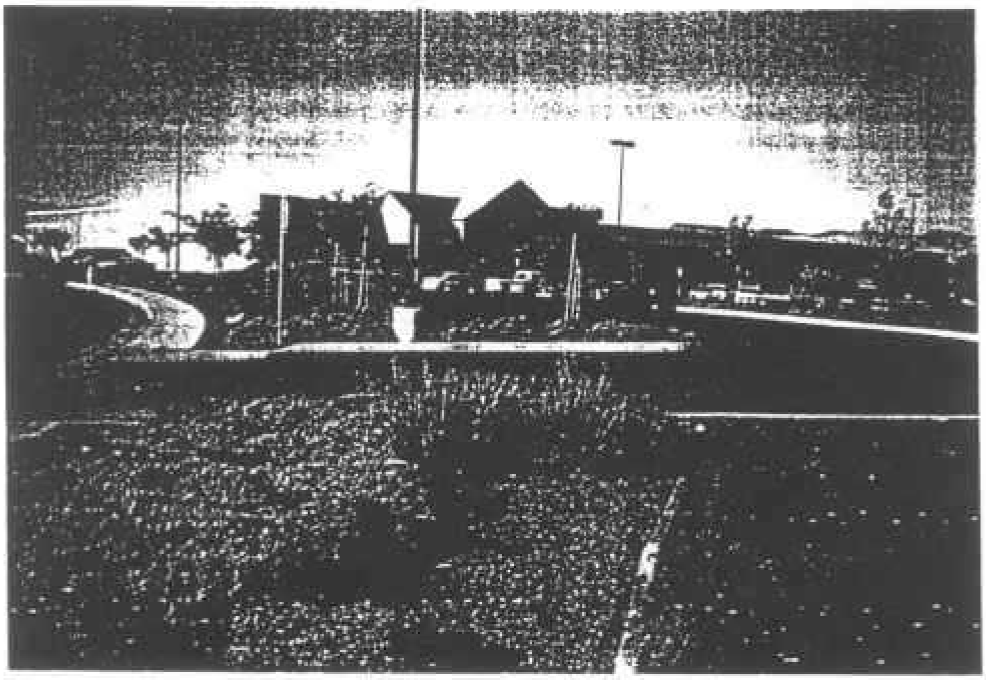


Photographer: P.M. Geiger

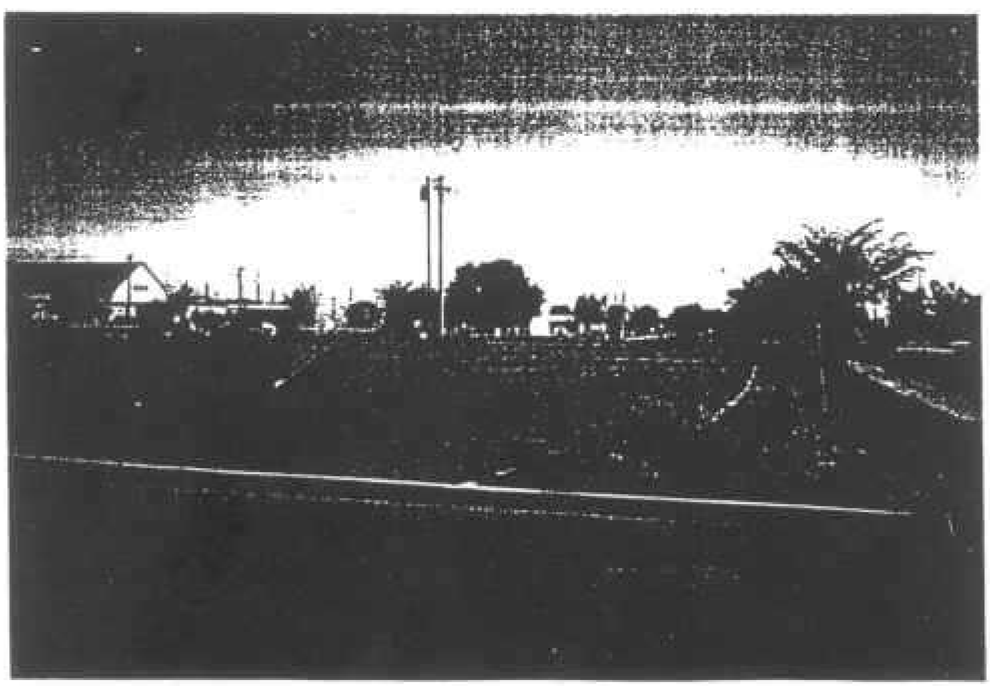
Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: South

Description: View of K-Mart at the intersection of East Polk Street and Forest Avenue.

* *



Photographer: P.M. Geiger

Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: North

Description: Lawn area north of K-Mart parking lot maintained by K-Mart.

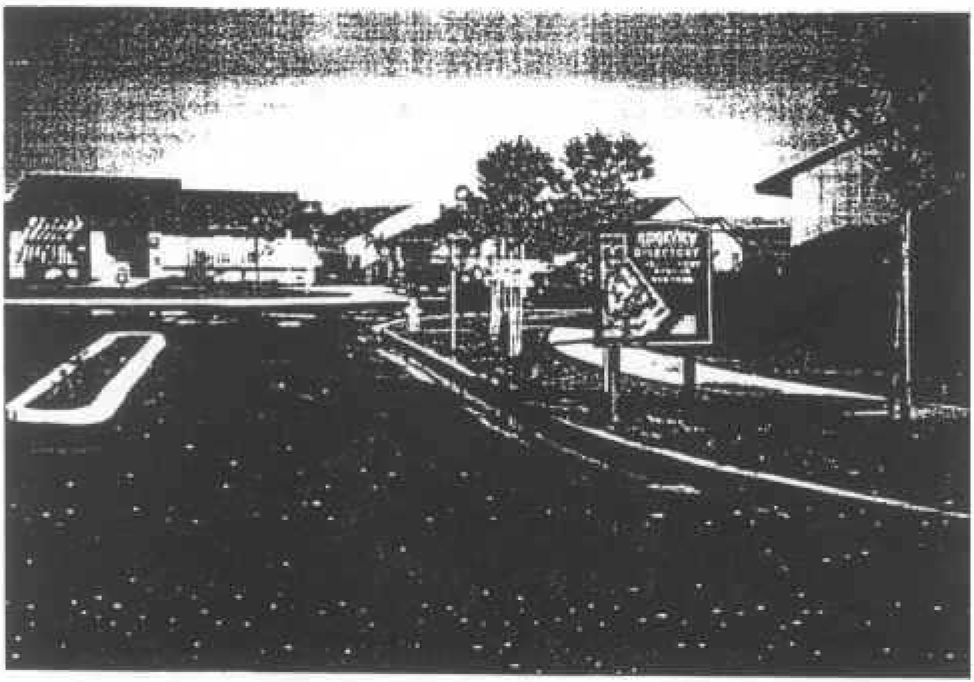
ecology and environment, inc.
PHOTOGRAPHIC RECORD

Client: U.S. Environmental Protection Agency E&E Job No.: ZO6040

Site: Coalinga Operable Unit

Camera: Make Ricoh L-20 auto SN 76244417

Lens Ricoh L-20 auto SN 76244417



Photographer: P.M. Geiger

Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: West

Description: Entrance to Ridgeview Apartments from Forest Avenue.

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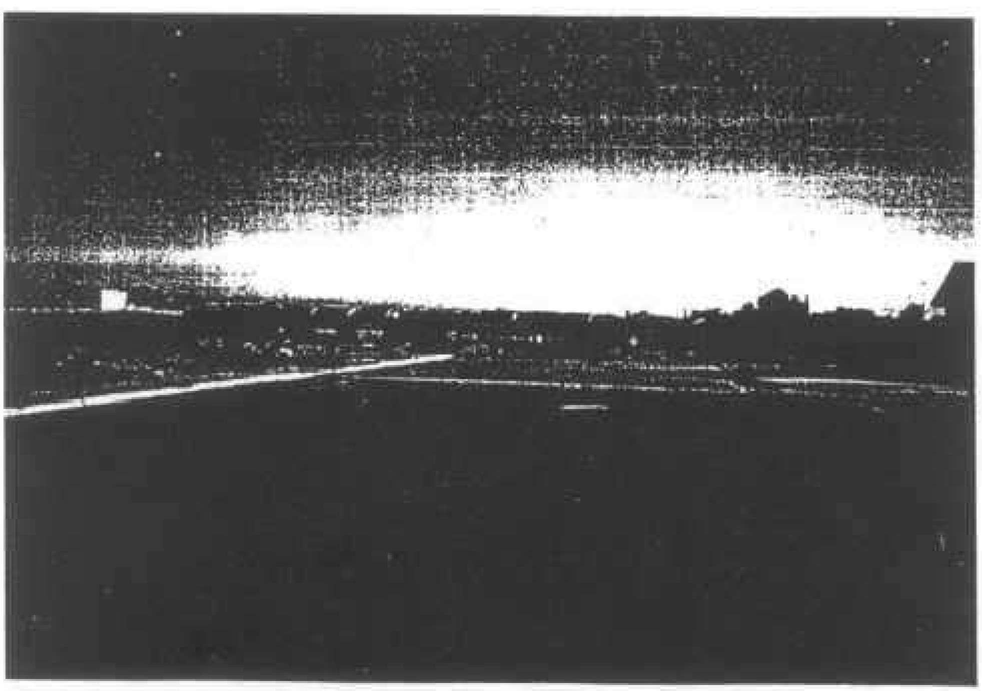

Photographer: P.M. Geiger

Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: North

Description: Undeveloped lots in northern portion of Fox Hollow Development. Ridgeview Apartments are in the background.

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ecology and environment, inc.
PHOTOGRAPHIC RECORD

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Client: U.S. Environmental Protection Agency E&E Job No.: ZO6040
Site: Coalinga Operable Unit

Camera: Make Ricoh L-20 auto SN 76244417
Lens Ricoh L-20 auto SN 76244417

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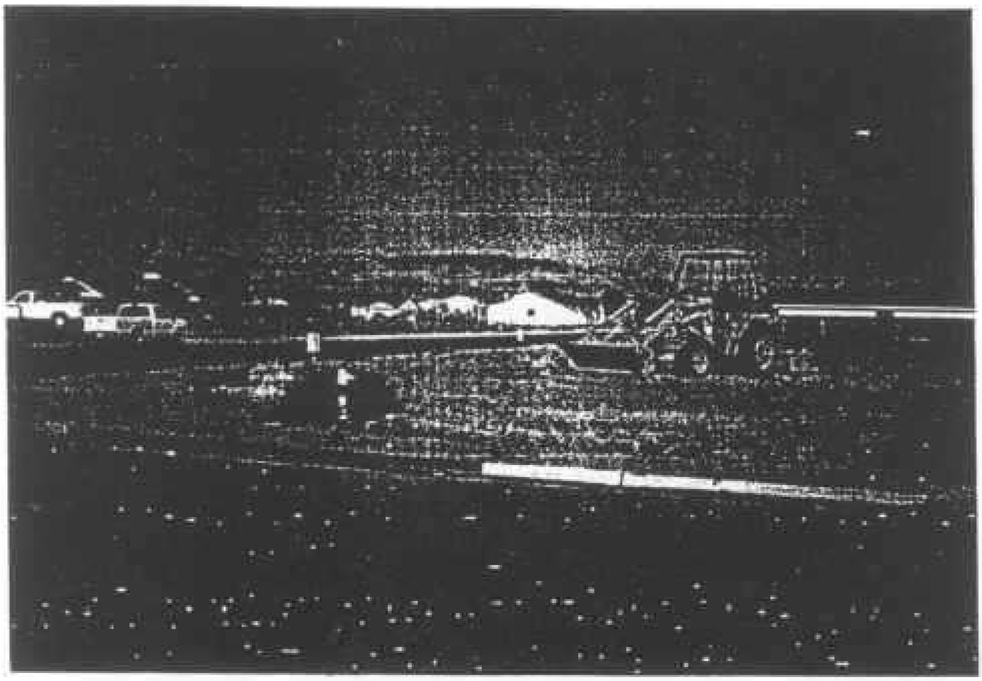


Photographer: P.M. Geiger

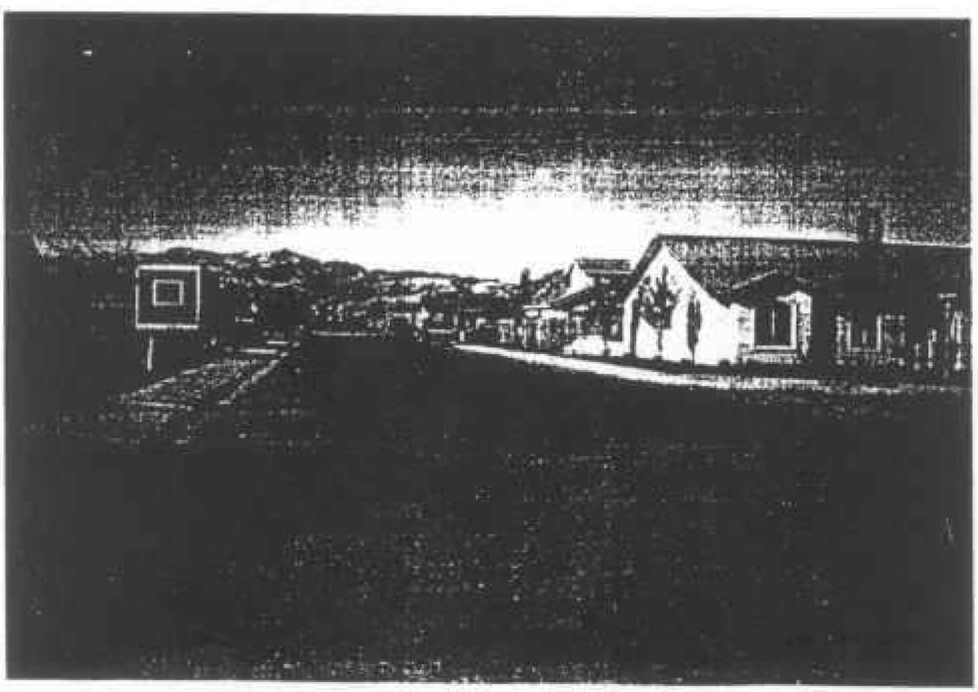
Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: Southwest

Description: Undeveloped lot in Fox Hollow Development.

* *



Photographer: P.M. Geiger

Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: South

Description: Constructed and occupied homes within Fox Hollow Development.

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ecology and environment, inc.
PHOTOGRAPHIC RECORD

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Client: U.S. Environmental Protection Agency E&E Job No.: ZO6040

Site: Coalinga Operable Unit

Camera: Make Ricoh L-20 auto SN 76244417

Lens Ricoh L-20 auto SN 76244417

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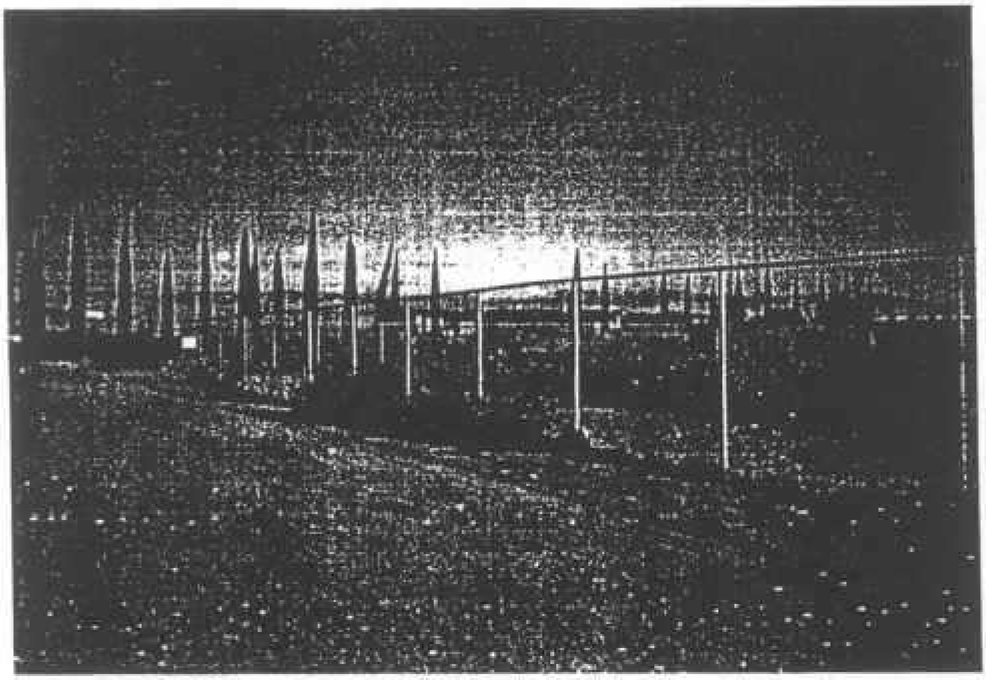


Photographer: P.M. Geiger

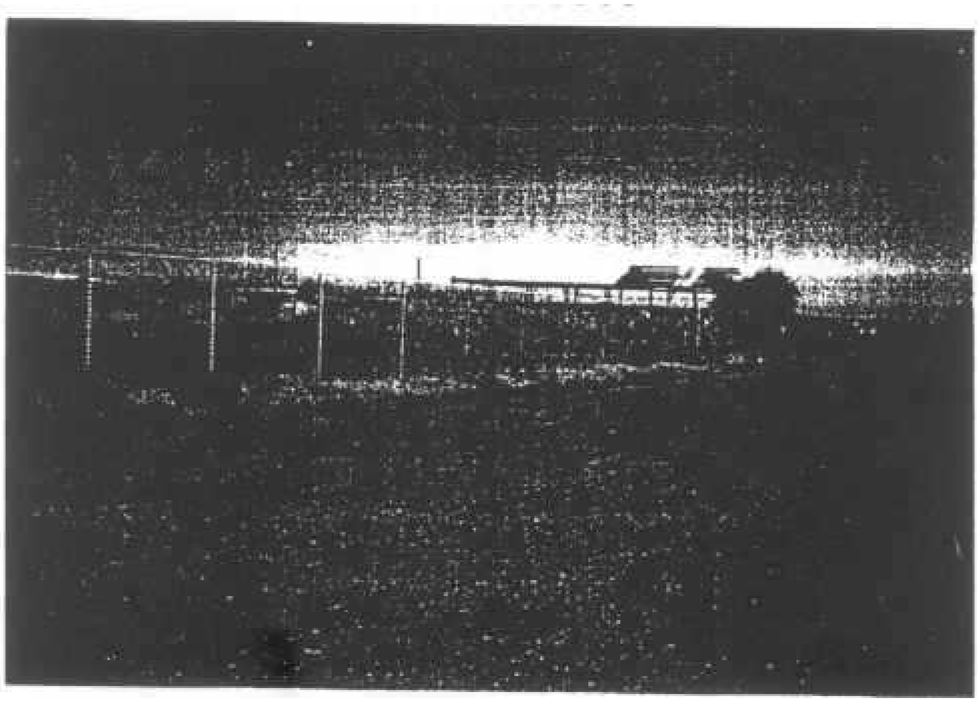
Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: Southwest

Description: South side of the Waste Management Unit. Note margin cleared of vegetation.

* *



Photographer: P.M. Geiger

Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: Northwest

Description: North side of Waste Management Unit. Echo Transport Building is in the background.

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ecology and environment, inc.
PHOTOGRAPHIC RECORD

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Client: U.S. Environmental Protection Agency E&E Job No.: ZO6040

Site: Coalinga Operable Unit

Camera: Make Ricoh L-20 auto SN 76244417

Lens Ricoh L-20 auto SN 76244417

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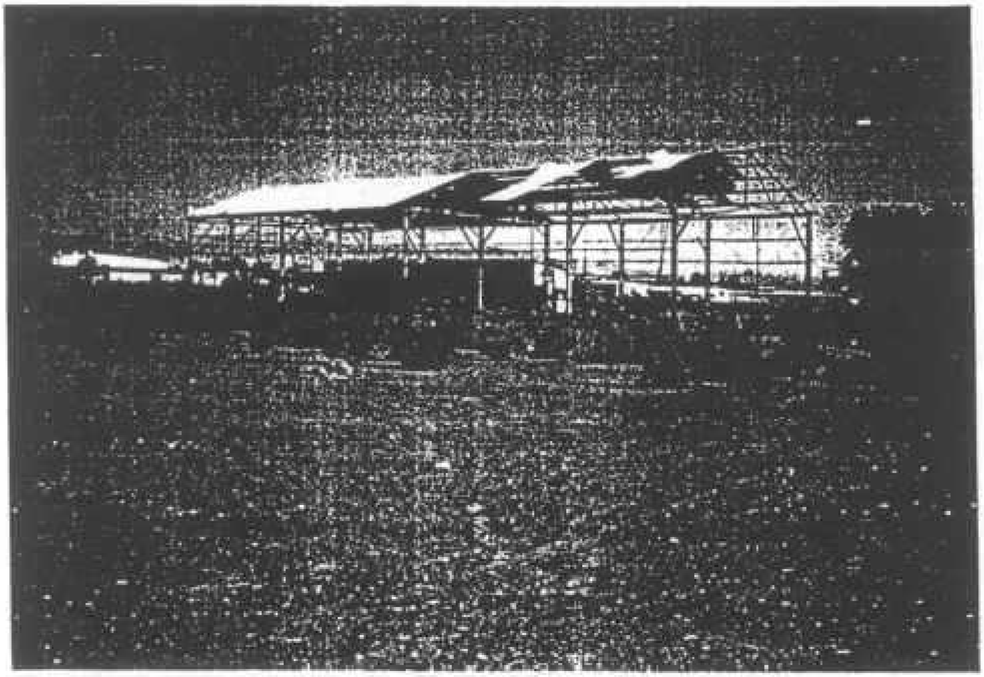

Photographer: P.M. Geiger

Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: North

Description: Closeup of the Echo Transport Building adjacent to the north side of the Waste Management Unit.

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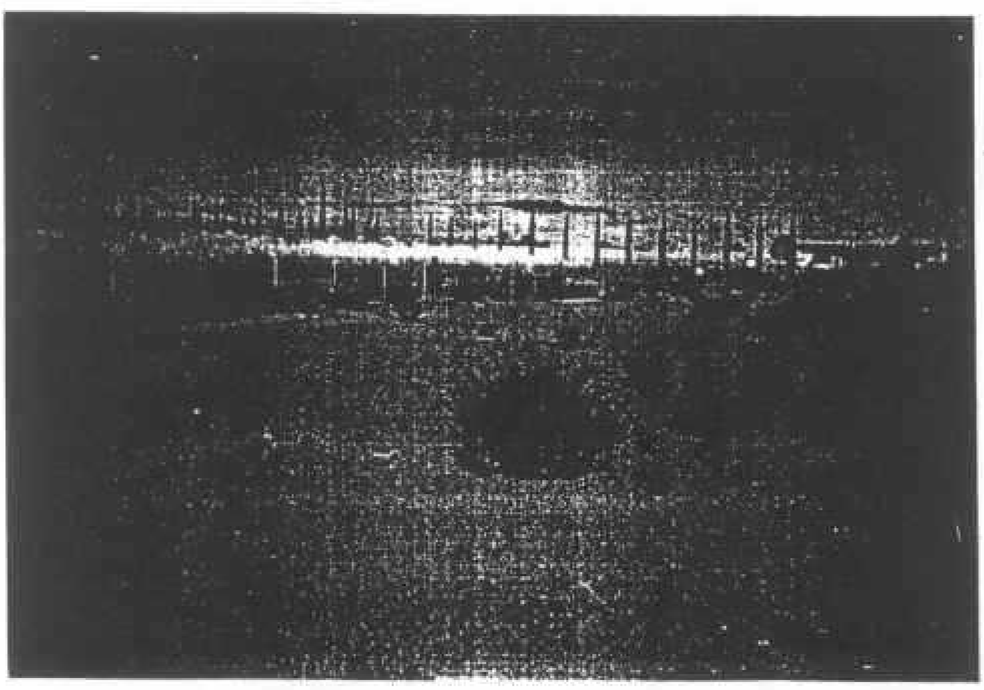

Photographer: P.M. Geiger

Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: Southwest

Description: North side of Waste Management Unit.

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ecology and environment, inc.
PHOTOGRAPHIC RECORD

= =

Client: U.S. Environmental Protection Agency E&E Job No.: ZO6040

Site: Coalinga Operable Unit

Camera: Make Ricoh L-20 auto SN 76244417

Lens Ricoh L-20 auto SN 76244417

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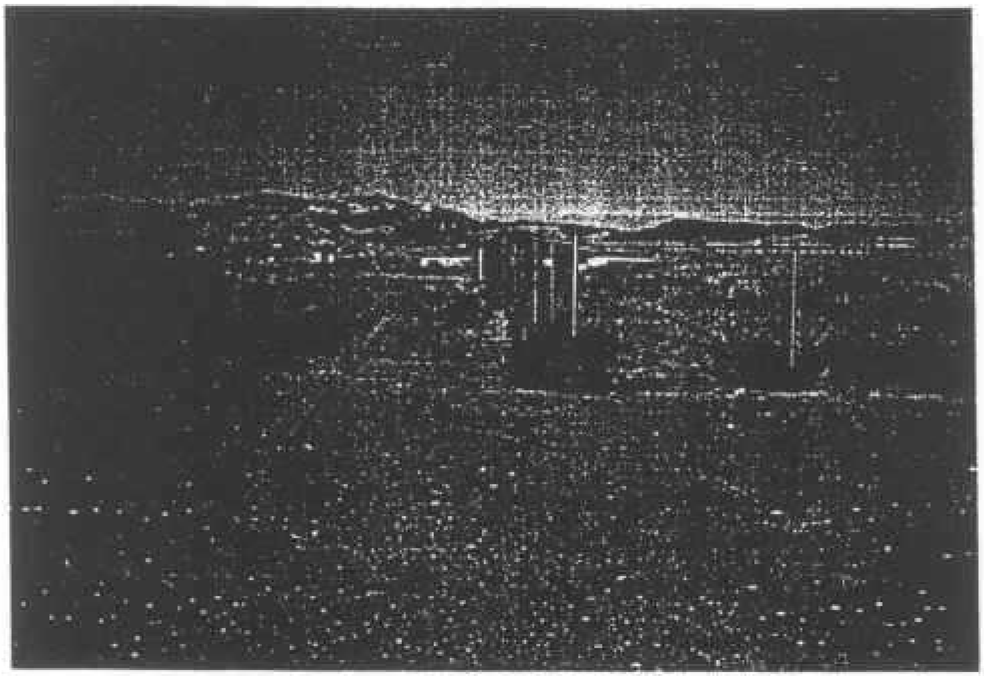

Photographer: P.M. Geiger

Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: East

Description: Northwest corner of Waste Management Unit.

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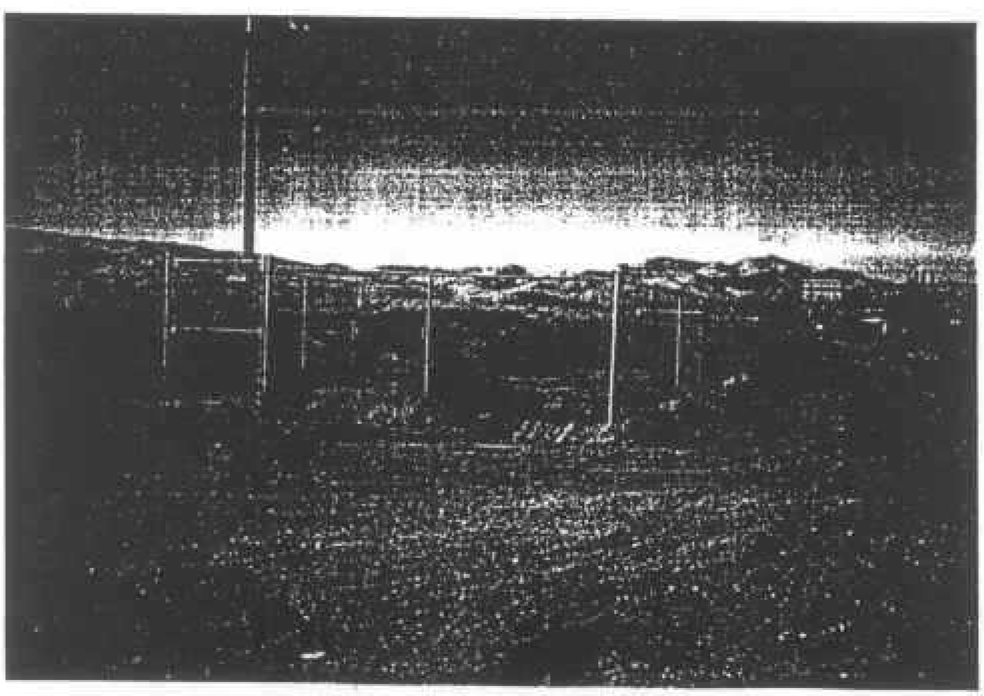

Photographer: P.M. Geiger

Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: East

Description: Southwest corner of Waste Management Unit. Electrical service provided at utility pole.

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PHOTOGRAPHIC RECORD

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Client: U.S. Environmental Protection Agency   E&E Job No.: ZO6040
Site: Coalinga Operable Unit

Camera: Make Ricoh L-20 auto   SN 76244417
Lens Ricoh L-20 auto   SN 76244417

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Photographer: P.M. Geiger

Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: South

Description: View of Coalinga Machine Works from the corner of 6th Street and Glenn Avenue.

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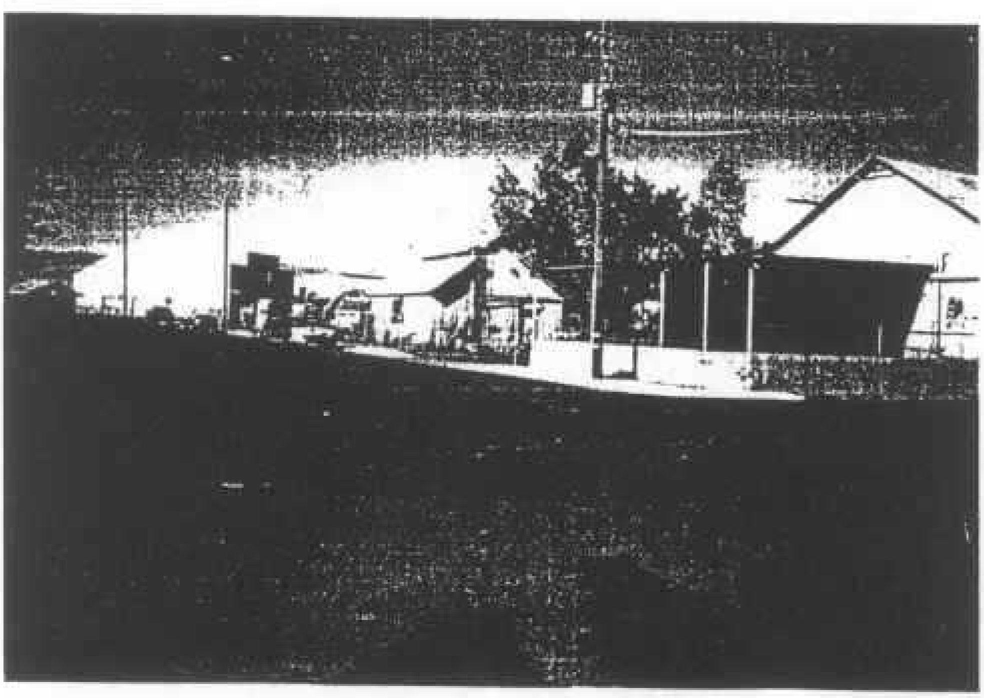

Photographer: P.M. Geiger

Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: South

Description: View of Coalinga Machine Works from the corner of 6th Street and Glenn Avenue.

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ecology and environment, inc.
PHOTOGRAPHIC RECORD

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Client: U.S. Environmental Protection Agency E&E Job No.: ZO6040
Site: Coalinga Operable Unit

Camera: Make Ricoh L-20 auto SN 76244417
Lens Ricoh L-20 auto SN 76244417

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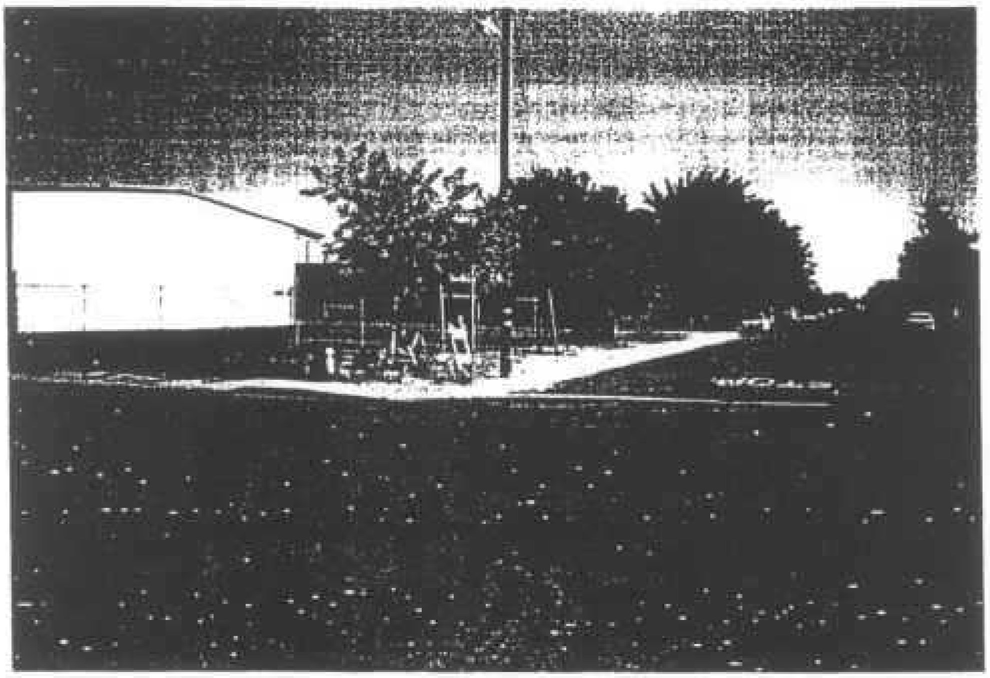

Photographer: P.M. Geiger
Date: Sept. 14, 1995
Site: Coalinga O.U.
Direction: North
Description: View of O.U. from 6th Street and Glenn Avenue.

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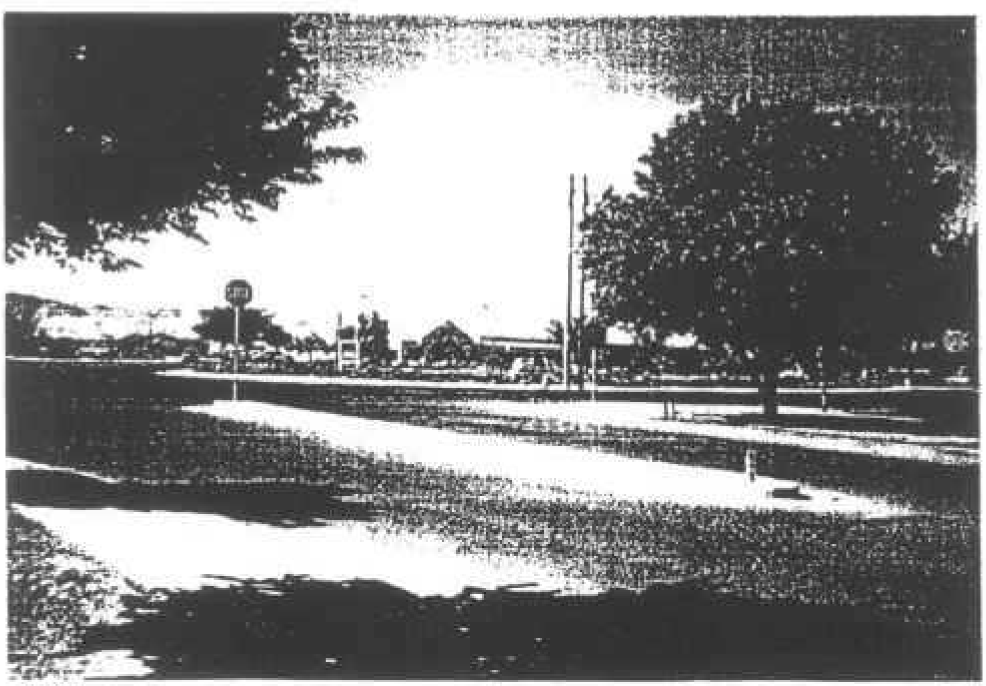

Photographer: P.M. Geiger
Date: Sept. 14, 1995
Site: Coalinga O.U.
Direction: Southwest
Description: View of O.U. from 7th Street and Forest Avenue. K-Mart is in the background.

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ecology and environment, inc.
PHOTOGRAPHIC RECORD

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Client: U.S. Environmental Protection Agency E&E Job No.: ZO6040
Site: Coalinga Operable Unit

Camera: Make Ricoh L-20 auto SN 76244417
Lens Ricoh L-20 auto SN 76244417

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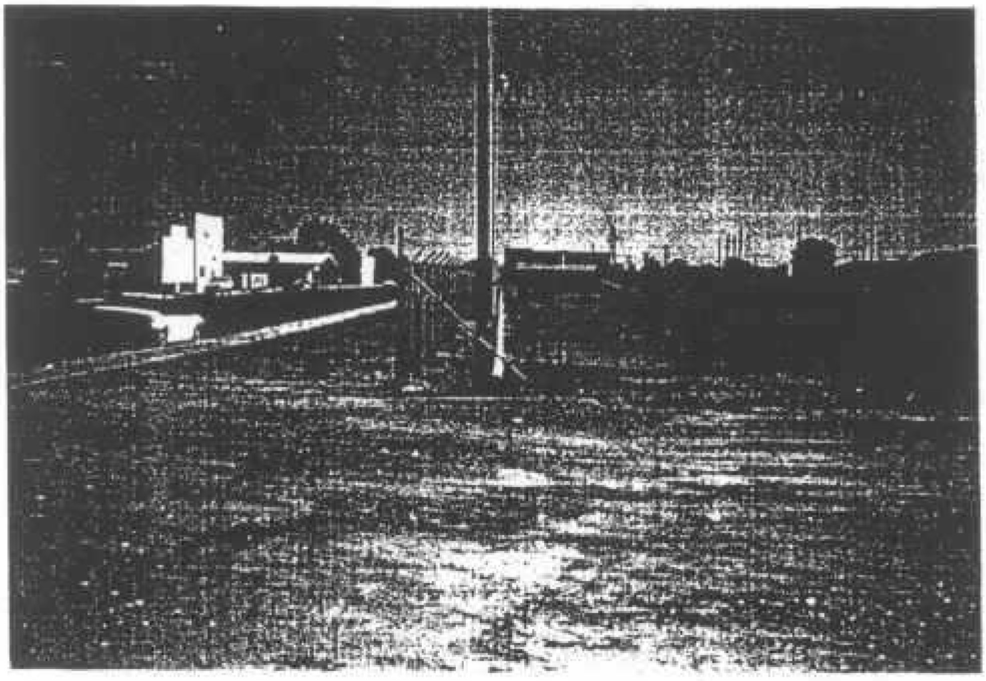

Photographer: P.M. Geiger
Date: Sept. 14, 1995
Site: Coalinga O.U.
Direction: North
Description: Undeveloped parcel at 7th Street and Forest Avenue.

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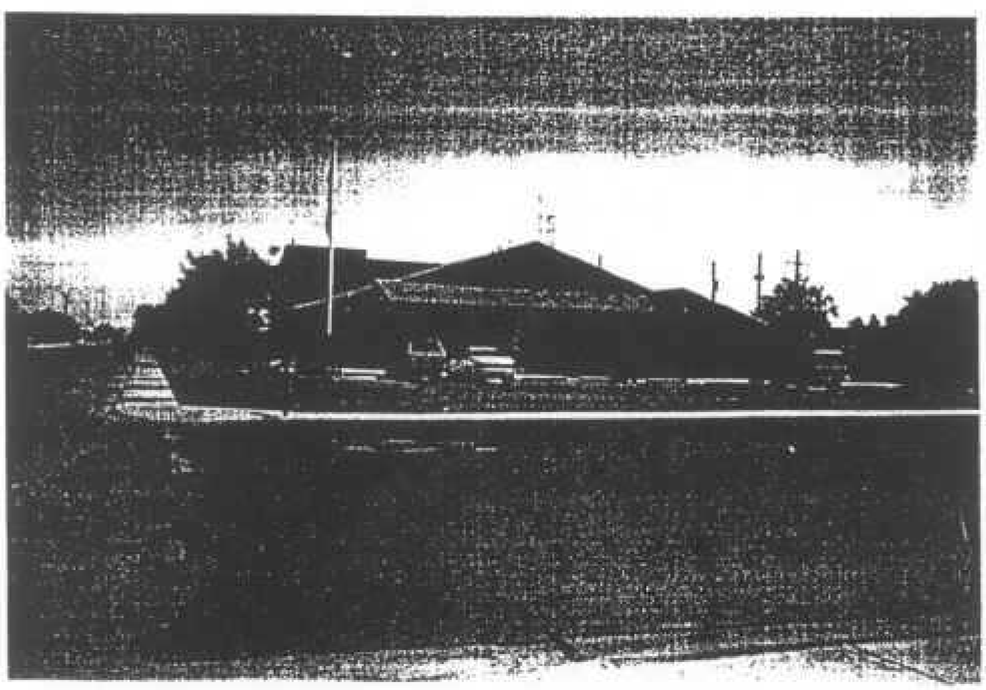

Photographer: P.M. Geiger
Date: Sept. 14, 1995
Site: Coalinga O.U.
Direction: North
Description: California Highway Patrol station at 6th Street and Forest Avenue.

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PHOTOGRAPHIC RECORD

Client:	U.S. Environmental Protection Agency	E&E Job No.:	ZO6040
Site:	Coalinga Operable Unit		

Camera:	Make	Ricoh L-20 auto	SN	76244417
	Lens	Ricoh L-20 auto	SN	76244417

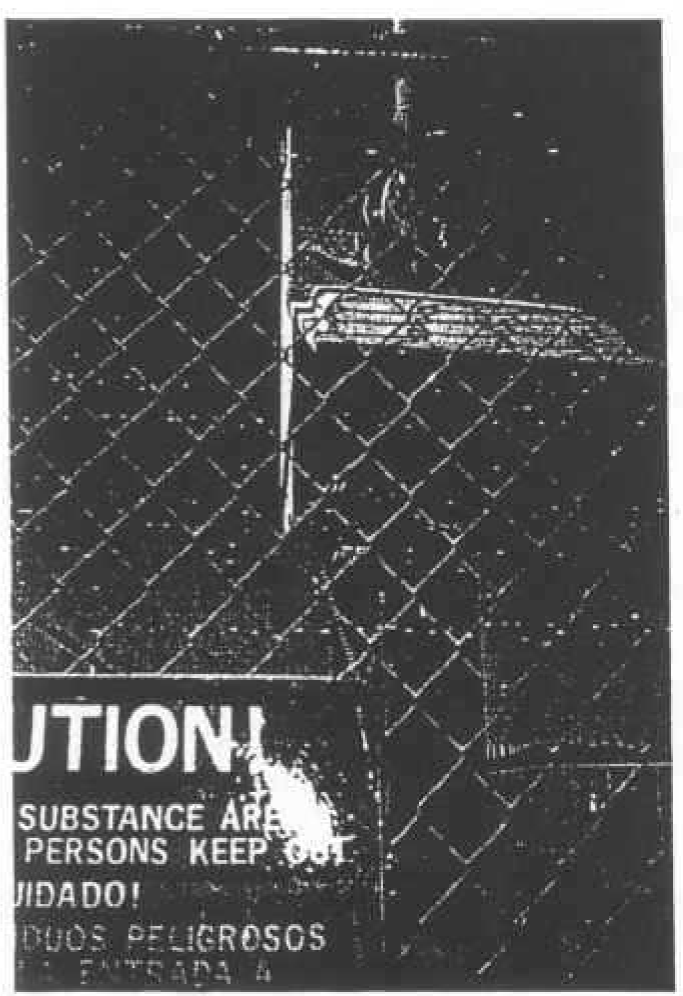
Photographer: P.M. Geiger

Date: Sept. 14, 1995

Site: Coalinga O.U.

Direction: East

Description: Closeup of electrical service meter at Waste Management Unit. Note: the meter is too high up to determine if it is operational.



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ecology and environment, inc.
PHOTOGRAPHIC RECORD

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Client:	U.S. Environmental Protection Agency	E&E Job No.:	ZO6040
Site:	Coalinga Operable Unit		

Camera:	Make	Ricoh L-20 auto	SN	76244417
	Lens	Ricoh L-20 auto	SN	76244417

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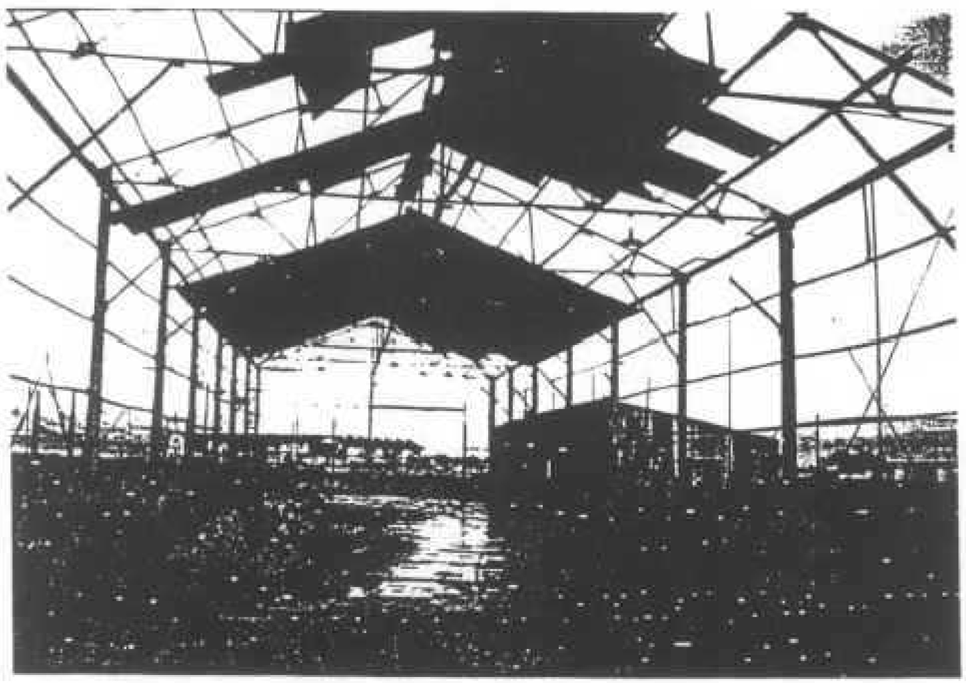

Photographer: R. Anderson

Date: Dec. 13, 1995

Site: Coalinga O.U.

Direction: West

Description: View of the Echo Transport Building.

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ecology and environment, inc.
PHOTOGRAPHIC RECORD

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Client:	U.S. Environmental Protection Agency	E&E Job No.:	ZO6040
Site:	Coalinga Operable Unit		

Camera:	Make	Ricoh L-20 auto	SN	76244417
	Lens	Ricoh L-20 auto	SN	76244417

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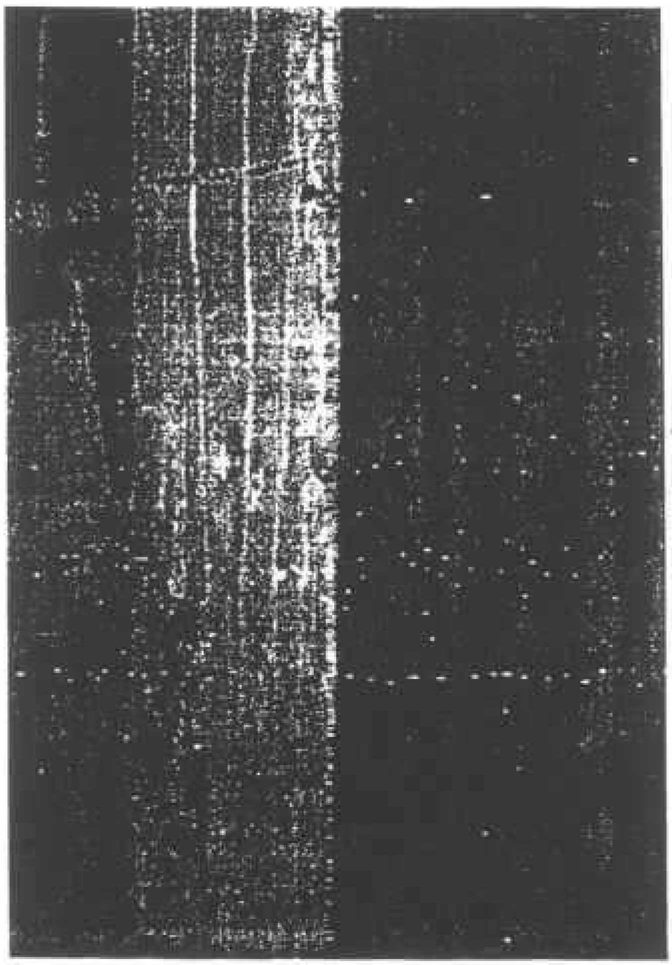

Photographer: R. Anderson

Date: Dec. 13, 1995

Site: Coalinga O.U.

Direction: North

Description: Closeup of one of the beams of the Echo Transport Building superstructure.

ecology and environment, inc.
PHOTOGRAPHIC RECORD

Client:	U.S. Environmental Protection Agency		E&E Job No.:	ZO6040
Site:	Coalinga Operable Unit			
Camera:	Make: Ricoh L-20 auto	SN	76244417	
	Lens: Ricoh L-20 auto	SN	76244417	

Photographer: R. Anderson
Date: Dec. 13, 1995
Site: Coalinga O.U.
Direction: Northeast
Description: View of Echo Transport Building.